

## DATABASE OPTIMIZATION APPARATUS AND METHOD

### ABSTRACT OF THE DISCLOSURE

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A database optimizer collects statistics regarding which types of applications are accessing the database, and makes one or more changes to the database schema to optimize performance according to the collected statistics. In a first embodiment, the optimizer detects when a certain type of application accesses the database a percentage of time that exceeds a predefined threshold level, and if the data in the database is stored in a less-than-optimal format for the application, the data type of one or more columns in the database is changed to a more optimal format for the application. This means that the database optimizer must recognize when a different type of application requests data from any changed column, and must potentially perform a conversion from the new data type to the old data type before returning the requested data. In a second embodiment, the optimizer detects when one type of application accesses a column a percentage of time that exceeds a first predefined threshold level and that accesses the column a percentage of time that is less than a second predefined threshold level. In this case, a new column is created in the database so the data is present in both formats, thereby optimizing the performance of both old and new applications that access the data. The database optimizer looks at what type of application requested data, and returns the data in the format optimized for that type of application.